

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the matter of)	
)	
Appropriate Framework for)	CC Docket No. 02-33
Broadband Access to the Internet)	
Over Wireline Facilities)	

REPLY COMMENTS OF FRANCOIS D. MENARD

Introduction

1. The following reply comments are presented by Francois D. Menard, a citizen of Canada. It is believed that several elements of the process which has been developing to date in Canada to implement competition over higher-speed facilities in Canada can be utilized by the FCC to resolve several issues which it is currently considering.
2. The comments record has closed on May 3rd 2002 with a vast majority of interveners saying in their filings that the Commission has erred both in fact and in law in concluding in advance of facts, that DSL services of incumbent carriers should no longer be treated as common carrier services.
3. These reply comments have for purpose to augment on an already clearly stated position in the comments phase. The Commission is hereby invited to consider the following elements from the regulatory process set in Canada to approve of a third party access ADSL service that could be made available to competitors of Bell Canada, where a number of interveners have challenged the inadequacy of the service proposed by Bell Canada.
4. The comments submitted on the record of Bell Canada TN6622 for the approval of its ADSL third party access are provided here-in on the record to assist the Commission in jointly determining with state-based telecommunications regulatory commissions, the

basic terms and conditions for xDSL third party access services that could be mandated on incumbent carriers.

5. The economic evaluation submitted by Bell Canada (TN6622) for its ADSL third party access is also provided here-in on the record to assist the Commission in approving of proper rates, based not only on a TELRIC methodology, but on actually on a much more lenient CRTC Phase II cost methodology, which demonstrate profitability at rates of C\$21.90 per month for residential service. It is believed that several incumbents have at least the same size and scope as in Bell Canada and that no good reason could exist for them to submit economic evaluations that are fundamentally different from the one filed by Bell Canada.

Reply Comments

6. Following a complaint of the Canadian Association of Internet Providers before the CRTC, Bell Canada filed a new economic evaluation for its ADSL third party access service (TN6622). The economic evaluation for this service is presented in Appendix A of this filing.

7. The new economic evaluation submitted by Bell Canada based on 2001 economics declared a reduction in rate of more than \$40 per month compared to the economic evaluation presented in 1997. Bell Canada has justified this reduction based on the cost comparison of Westell ADSL DSLAMs in 1997 and Alcatel ADSL DSLAMs in 2001. The reality however is that Bell Canada has provided a service using Nortel One-meg Modem technology for more than two years, while keeping rates in the market place based on Westell ADSL DSLAM costs.

8. Several elements of the rates terms and conditions proposed by Bell Canada in TN6622 are inappropriate as per the following interrogatories posed to Bell Canada:

100 *ADSL is a standard that is approved as a recommendation of the ITU-T. It is described as being a particular form of DSL by the ITU-T pre-publication G.995.1 freely available from the ITU-T web site. From the pre-published [G.995.1 (02/01)] "Overview of digital subscriber line (DSL)" document, DSL is described as being recommended in the following ITU-T standards:*

"The family of DSL Recommendations includes the following: G.992.1, G.992.2, G.991.1, G.991.2, G.996.1, G.994.1, G.997.1, and G.995.1.

Recommendations G.991.1, G.991.2, G.992.1, and G.992.2 have developed techniques for transmitting a range of bit rates over the existing copper local network from relatively short distances at high bit rates, and to long distances at relatively lower bit rates.

G.994.1, G.996.1, and G.997.1 support the G.992.1 and G.992.2 by providing common handshake, management and testing procedures.”

The point of this argument is that by introducing an ADSL tariff, Bell Canada has a responsibility to formally describe how compliant is its GT5400 service and its revision under TN6622 with the standards for a subtype of DSL known as ADSL described by the G.992.1 and G.992.2 ITU-T recommendations.

It is necessary that Bell Canada provides answers to the following interrogatories so as to understand whether or not the services that it provides under GT 5400/TN6622 are comparable to those that it provides to itself or its affiliated companies. In addition, it is necessary to validate to which extent the services that Bell Canada provides actually correspond to what can be reasonably expected from a general understanding of what constitutes ADSL from the various standards document approved by the ITU-T.

Based on the aforementioned argumentation, the following interrogatory poses the following questions:

- a) Are the services currently provided under GT5400 and proposed under TN6622 compatible with the following ADSL standards:*
- G.992.1 Asymmetrical Digital Subscriber Line (ADSL) Transceivers*
 - G.992.2 Splitterless Asymmetrical Digital Subscriber Line (ADSL) Transceivers*

To the extent that neither one or only one of these two ITU-T recommendations are supported by GT5400 or by TN6622, provide a detailed description and appropriate justifications for the portions of the standards that are not supported.

- 101 *GT5400 and TN6622 describe a service which does not implement all of the functionality than that provided by the currently offered Nexxia.Gateway wholesale service. This service is the one that has up to now been the main service purchased by some ISPs to offer services equivalent to the one of “Sympatico HighSpeed Edition (HSE)” offered by Bell Canada. The reason for which GT5400 has not been ordered by any ISP not affiliated to Bell Canada is due to fact that the monthly rate approved by the Commission under CRTC Order 99-68 is more than 40\$ per month more expensive than the present retail rate that Bell Canada charges for Sympatico HSE.*

More specifically, the Nexxia.Gateway product mandates the use of network elements known as “access concentrators” which force ISPs to use a non-standardized protocol published as an informational¹ request for comment entitled “A Method for Transmitting PPP Over Ethernet (PPPoE)” (RFC 2516²).

The unavailability of this functionality as part of GT5400 or TN6622 may cause certain ISPs to incur additional costs to purchase such access concentrators, which would otherwise be already provided under the Nexxia.Gateway product.

¹ An "Informational" specification is published for the general information of the Internet community, and does not represent an Internet community consensus or recommendation. [RFC2026] (<http://www.ietf.org/rfc/rfc2026.txt>).

² <http://www.normos.org/ietf/rfc/rfc2516.txt>

On the other hand, the fact that GT5400 or TN6622 does not mandate use of the proprietary PPPoE protocol is viewed by many other ISPs as having “finally won the battle” over Bell Canada for no longer being forced by Bell Canada to require their subscribers from loading proprietary (and often expensive) PPPoE client software on their computers. PPPoE currently stands in the way of the deployment of several innovative protocols such as IPv6, IP Integrated Services, IP Differentiated Services, IP Multicast and IPSec, which may give ISPs a competitive edge.

Unfortunately, GT5400 and TN6622 remain completely opaque as to what is the proposed mean by which the ADSL “Point of Interconnection” service will be implemented and what are the necessary procedures for provisioning the service.

It is necessary that additional information be provided on the public record to determine whether or not it will be possible for ISPs to route multiple IP addresses to one or more Internet appliances located on a home area network behind the ADSL customer premise modem.

More specifically, it is being questioned as to whether or not the particular implementation of the Multiprotocol over ATM (MPOA) standard function provided in the DSLAM operated by Bell Canada will properly bridge all Ethernet packets being presented to Ethernet interface of the customer premise ADSL modem, unchanged, including all spanning tree protocol packets and 802.1p/Q tagged packets. Bell is requested to provide a clear and concise response to this particular issue.

Bell Canada is requested to identify whether this information will be provided as one ATM permanent virtual circuit per ADSL modem.

Bell Canada is requested to identify whether or not it is prepared to promptly develop jointly with the ISP industry, procedures for provisioning the Virtual Path Identifier (VPI) and Virtual Circuit Identifier (VCI) tables that must be set up in the DSLAM and in each customer premise ADSL modems.

More specifically, Bell Canada is requested to identify whether or not it intended to provide ISPs with an automated Secure HTTP/XML-based customer provisioning services interfaces, which could be accessed by ISPs to turn-up subscribers and whether it expected to provide this service as part of the proposes service charges in TN8622.

Bell Canada is directed to identify whether or not it intended to provide a self-service interface or it intended for the service to remain inactive until such time as either the subscriber or the ISP advises Bell Canada to connect the subscriber to a specific ISP. Were it to be done on a self-service interface, it would then require Bell Canada to manage this self-service interface, which in itself could be a very contentious process.

- 102 *Provide a justification on why Bell Canada does not consider that the requirements imposed on interconnecting ISPs to equip themselves with at least one ATM network element capable of terminating hundreds if not thousands of permanent virtual circuits, in order to receive the service, does not present and undue discrimination. ATM switches capable of performing such functions are often priced out of reach of typical ISPs.*
- 103 *Provide a detailed description as to whether or not ISPs are required to incur both the ADSL Loop Administration and Support & ADSL access service charges every time that a subscriber is being turned up.*
- 104 *Provide justification as to why once a subscriber has already incurred once the ADSL Loop Administration and Support charge, it is required to incur this charge again if it so chooses to change ISP.*
- 105 *Provide justification as to why once a subscriber has already incurred once the ADSL access service charge, it is required to incur this charge again if it so chooses to change ISP.*
- 106 *Provide a justification as to why the proposed charge for the high-speed service provider interface carries a higher price when it is used to transport ADSL traffic being generated over business and Centrex lines.*

- 107 Provide a justification as to why the proposed ADSL access service charge is twice more expensive for a
businesses or Centrex line than it is for a residential line.
- 108 Demonstrate that the proposed ADSL charges do not represent an attempt to cross-subsidize ADSL services
from primary exchange services in order to entice customers to maintain their primary exchange service with
Bell Canada in order to be entitled to a low-rate for ADSL access.
- 109 Provide a justification as to why the proposed charge for ADSL access on a business or Centrex line is 50
percent more expensive than for residential lines.
- 110 Provide an explanation as to why the proposed rate for ADSL Loop Administration and Support charge is
lower than in the current tariff. Explain how with this lower charge Bell Canada would be capable of
providing the POTS splitter function in order for there to be only one interconnecting link between the
DSLAM of the co-located DSLSP DSLAM.
- 111 Indicate whether the proposed architecture for ADSL Loop Administration and Support service provided to
a co-located DSLSP will require one or two interconnecting links from its cage per ADSL access, that is,
one from the MDF to the cage and then one from the cage back to the switch, in order for subscribers to
receive primary exchange service with Bell Canada
- 112 Since the ADSL access is only provided to subscribers maintaining primary exchange service with Bell
Canda, explain why there needs to be a separate charge for ADSL Loop Administration and Support and
why should that charge not only apply for those subscribers that would be receiving service from a co-located
DSLSP.
- 113 Provide a justification as to the rationality behind the proposal that an ISP be required to sign a long-term
contract of 3 years in order to receive a 42% discount over the monthly charge associated with the high speed
service provider interface and why the discounted rate should not apply, even without any long-term contract.
Provide a justification as to what is the impact on the cost of the highs-speed service provider interface if Bell
Canada is deprived an income of 600\$ per month, over 35 months, which carries a present value of more
than 8000\$ @ 6% interest per year.
Provide your opinion as to what extent does the requirement that GT5400 or TN6622 pose on ISPs to
equip themselves with expensive ATM switches capable of terminating potentially hundreds if not thousands
of permanent virtual circuits on a single interface.
- 114 Bell Canada has issued a press release on May 18th 2000, available at
<http://www1.sympatico.ca/help/About/belldsl.html>, stating that it intended to make a 1.5 billion dollar
investment to provide ADSL services set to cover 85% of Bell Canada's service territory by the end of 2002..
- 115 Provide evidence as to what is the current estimated coverage of ADSL services in Bell's territory as of
November 2001 and whether or not Bell Canada is on schedule to complete its expansion to 85% of its
service territory by the end of 2002.
- 116 Provide evidence as to the extent that the new proposed rate proposed under TN6622 will be compensatory
and will enable Bell Canada to remain cash flow positive for this service through the study period from 01
January 2002 to 31 December 2011 inclusive.
- 117 Provide evidence as to the extent that the new proposed rate will be compensatory if non-blocking back-haul is
provided between each DSLAM installed in remote sites to Central Offices in Bell Canada's operating
territory.
- 118 In section 3.3.1 of the new economic evaluation in support of TN 6622, Bell Canada mentions that since it
has currently one wholesale customer, it was not appropriate to develop a demand forecast and that the costs
for each rate element were developed for a single unit of demand.

This assumption clearly does not hold as the expected demand for the service, especially as it pertains to the high-speed service provider interface, needs to accommodate several ISPs. From a reading of this statement in the economic evaluation, it is unclear as to what was the real intent of Bell Canada in developing this argument. Did it really expect that there would continue to be only one wholesale customer despites having filed this enticing new rate or did it expect to artificially prevent other service providers from signing up due to the fact that the capacity for interconnecting service providers would not be possible with more than one service providers?

The current generation of DSLAM equipment do not support multiple high-speed service provider interfaces, in the same way that previous generation of Cable Modem Termination Systems did not support multiple Point of Interconnection interface functionalities. For this reason, it will be necessary for Bell Canada to install an ATM edge switch in the Central Office to provide multiple interfaces to multiple service providers for the same reasons that Cable Carriers will be required to purchase a POI router.

It will then be necessary to go through the same hassles of deciding whether or not a POI router with cost effective interfaces would be preferable to one which would remain highly priced, due to the use of ATM technology.

For example, were Bell Canada could install a Cisco 6509 switch and use the ATM OC3 or OC12 port adapter to interface up to 128 Gigabit Ethernet ports onto the only single high-speed service provider interface.

- 119 *In other words, what are the mechanisms by which ISPs are expected to be able to provide connectivity to every potential device on the home area networks of a subscriber and does the way Bell Canada proposes to implement the POI service restricts ISPs in their ability to provide such a service.*

The following interrogatory directs Bell Canada to provide detailed information as to how it intends to implement the POI service for GT5400 and TN6622. More specifically, it is questioned whether or not the provision of a POI service implemented as RFC1483 which has been rendered obsolete by RFC2864 [Multiprotocol Encapsulation over ATM Adaptation Layer 5]³ will properly support Ethernet VLAN (802.1Q) tags from being relayed across the POI so as to permit third party ISPs to create a layer 2 bridged Ethernet path between their premises and the subscriber's LAN behind the ADSL modem. In other words, will the particular implementation of the POI service mandated by Bell Canada limit the ability of ISPs to provide services to subscribers that are both secure as well and reliable.

Because the technology that ISPs are likely to use are comprised of Ethernet switches supporting the 802.1D

Whether or not the service order charge properly recover the costs for provisioning the Virtual Path Identifier (VPI) and Virtual Circuit Identifier (VCI) tables that must be set up in the DSLAM and in each customer premise ADSL modems.

will force ISP's to allocate one Ethernet VLAN per ATM permanent virtual circuit, in order to be able to maintain a dedicated layer 2 path between their premises and the subscriber premises.

- 120 *Gigabit Ethernet has been described in, for example, CIBC Work Markets, Equity Research, Gigabit Ethernet in the Metro-Area Network, 21 June 2001, Steve Kamman, (212) 667-5896, as having characteristics such as:*
- equipment costs that can be one tenth as expensive for some components*
 - incremental capacity upgrades to gigabit rates at low costs*
 - much lower packet overhead leading to higher throughput but lower quality of service*
 - difficulty integrating gigabit Ethernet with existing networks*
 - fewer flow management features.*
- A) CCTA in its submission of 13 July 2001, paragraph 20, states that a gigabit Ethernet connection that provides carrier class functionality is not a low cost solution. Provide a description of the equipment and functions that would add to the cost of a gigabit Ethernet solution and provide a comparison to existing OC-3 and DS-3 technology costs.*

³ <http://kaizi.viagenie.qc.ca/ietf/rfc/rfc2684.txt>

- B) *Assuming that an ISP were willing to accept quality of service limitations due to its choice of gigabit Ethernet for interconnection, what interconnection quality of service standards would be appropriate for gigabit Ethernet.*
- C) *Explain what impact, if any, gigabit Ethernet interconnection would have on the operation of the company's own network.*
- D) *At the web site: http://www.cisco.com/warp/public/cc/techno/media/lan/gig/tech/gigbt_tc.htm The following comment is made related to gigabit Ethernet: "The IEEE 802.3x committee is examining a method of flow control for full-duplex Ethernet." Provide your understanding of the implementation of such flow control for gigabit Ethernet and how it could be applied at a POI.*
- E) *If the throughput of a gigabit Ethernet transmission facility connecting at a POI is restricted to that of a Fast Ethernet 100 Base-FX connection, would the risk of flooding the network connecting to the POI be the same as for a Fast Ethernet connection?*
- F) *Indicate any additional or reduced equipment or procedures that would need to be implemented to accommodate interconnection at the POI by gigabit Ethernet rather than by Fast Ethernet. Provide an estimate of the cost differences.*

101 *Provide your views on the appropriateness of a procedure for the provision of POI router cards based on the following:*

- *An ISP would request connection at a POI indicating its requirement for an interconnection type and capacity*
- *The cable company would provide a report indicating options and costs to acquire a POI router card to provide the interconnection*
- *The ISP would select an option and pay the cost of the card (at the cable company procurement cost). The card would remain the responsibility of the cable company, including maintenance and access to any cable company spares.*
- *When an additional ISP requests connection at the same POI, or an existing ISP expands its capacity, the cable company report would identify the option of sharing any existing POI cards if unused ports are available. If the ISP chooses to use existing ports on a POI card it would pay a share of the original card cost in relation to the number of ports used. The payment would be reimbursed to the ISP who initially paid for the card.
(see CISC HSWG file HSCO021 for examples of multi-port router cards)*
- *Any POI card ports that are abandoned by ISPs would be available at no charge to another ISP for TPLA service.*
- *When the cable company proposes to upgrade or replace POI equipment such that the POI router cards would need to be replaced, a six month notice period and reasons for the change would be provided to affected ISPs. Cost estimates for the most efficient way to replace the POI cards would be provided.*

102 *Provide an estimate of a tariff rate that could apply to the development of a design and costing study for 1) initial and 2) subsequent requests for connection at a POI. This study would provide the POI facilities design and costing similar to the Secondary Report now described in TPLA service agreements. Provide a supporting cost study, including a detailed description of the activities, resources used and quantities, unit labour rates and demand estimates.*

103 *Provide your views on the appropriateness of a procedure for requests for POI access based on the following:*

- *for the initial request for access at a POI the requesting ISP would pay a tariffed rate for a design and costing report covering entrance facilities and POI connection. The report would be provided within 20 business days;*
- *subsequent requests at the same POI by additional ISPs, or by existing ISPs for changes to a connection, would be subject to a tariffed rate with a report within 15 business days;*

- this procedure would replace the initial and secondary reports currently envisioned. The connection work would be completed within three months of acceptance of the report for an initial connection at a POI and within one month for subsequent connections at the same location, or for changes to a connection, subject to equipment procurement delays.

104 *Discuss the appropriate mark-up rate to be used in determining rates for POI interconnection and service charges. Note that in other cases where a tariff rate is for the recovery of interconnection equipment costs or services provided by contractors involving limited use of corporate overheads, the Commission has on occasion approved rates based on a mark-up of less than 10%. Include an estimate of the proportion of costs for proposed POI interconnection rates and for service charges that are 1) equipment costs 2) contractor services and 3) other costs (specify).*

105 *Describe the differences in the economic study methodology or calculations filed by your company (Cogeco TN 7, Rogers TN 11, Shaw TN 4 or Vidéotron TN 8) compared to the studies filed in the proceeding leading to Order 2000-789. Include a discussion of the changes in methodology to remove the income tax costs associated with the mark-up component of rates. Also include a comparison of the TPLA demand forecast used in the current and previous studies, and justify any differences.*

106 *For the five largest metropolitan area cable systems (each may be multiple licensed BDUs) operated by your company, identify the metropolitan cable service area, describe the geographic service area and provide a detailed description of the POI access locations and arrangements, including:*

- A) For each metropolitan area, how many POI locations would a TPLA provider require to reach at least 75% of cable subscribers?*
 - B) Of the total POIs required to connect to the five cable systems, how many would be likely to require conduit construction and extra expenses not included in the proposed POI tariff rates?*
 - C) The street addresses of the proposed POI locations assumed to respond to this interrogatory.*
- 107 *A) Where a new aerial or buried drop is required, describe the typical digital and analogue broadcasting and data services that would be carried by the new drop.*
- B) Provide your views of the benefits, if any, for services, other than TPLA service, in terms of the quality of signal over the life of the new drop.*
 - C) For new or replaced drops, justify why the same level of mark-up should apply where major cost components are provided by a contractor.*
 - D) Provide calculations of aerial and buried loop installation, replacement or modification rates assuming that only half or the costs are causal to the TPLA service.*

108 *Provide a description of any local right-of-way or support structure procedures that may cause costs to be incurred or avoided for a POI connection in your serving territory. How are these costs reflected in your POI cost studies?*

109 *Provide a Cogeco web site reference or sample billing information to customers which indicates that Cogeco currently bills all its Internet customers an additional usage charge of \$2.00 per modem per 100Mb. If this is not available, confirm whether this additional usage charge applies to Cogeco customers and, if not, justify how the application of this usage charge to TPLA customers only is consistent with Order 2000-789 and Section 27(2) of the Telecommunications Act.*

110 *Indicate what service charges, if any, and relevant tariff references Cogeco would apply for the following activities:*

- transfer of an end user from the Cogeco Internet service to a new ISP;*
- transfer an end user from one ISP to another ISP;*
- change end-user specifications;*
- provide a POI design and cost estimate; and*

- Installation or diagnostic work at the end-user premise

- 111 Indicate whether the proposed ISP service order rate would apply a) per POI interconnection requested, b) once per service request (i.e. could be multiple POIs per request), or c) only for the first request for service by ISP.
- 112 In Cogeco's economic evaluation, item 2.1.2 POI Access states: "When it is necessary for Cogeco to install new conduit or incur any unusual expense to terminate the Customer's transmission facilities in the splicing enclosure at the POI, an additional charge may be assessed."
- A) Indicate whether new conduit or unusual expenses to connect TPLA service could be shared with other Cogeco services and also benefit Cogeco by increasing conduit capacity and other facilities for other purposes.
 - B) Provide a description of the basis on which the cost of new conduit and other unusual expenses would be derived. Further, indicate whether, and how, the total facility costs would be allocated between TPLA service and other Cogeco services.
 - C) Provide a detailed description of the circumstances that would require new conduit for TPLA service and what would be included in "unusual expenses".
- 113
- A) Provide a block diagram and a breakdown of all cost elements, quantities and unit rates used to derive the POI access rate of \$2,278 per month.
 - B) Provide a calculation of a one-time service charge per POI access that would recover the POI access costs as in A).
 - C) Provide a calculation of a one-time service charge for POI access that includes recovery of the Fibre Optic Splicing Closure, facilities to connect to a Fibre Entry Panel, the Fibre Entry Panel and related splicing and labour costs.
 - D) Indicate how the costs of any required CSU/DSU equipment, fibre loop converter or link between the DSX or Fibre Patch Panel and the POI router card are recovered in your proposed tariffs.
 - E) Indicate how the POI access rate would change if the connection were by gigabit Ethernet.
- 114 Section 3.3 of Cogeco's economic study describes the POI Access tariff element as covering the cost of the POI router, software, installation and maintenance.
- A) Confirm that the POI router was not included in Cogeco's economic study for the Transport Rate element approved in Order 2000-789, and, if so, explain why.
 - B) Provide a breakdown of the capital costs and expenses included in the POI Access tariff economic study for the POI router.
 - C) If Cogeco recovered the capital costs and expenses for the POI router and optical interface in its Transport rate rather than the POI Access tariff, what Transport rate increase would be required? Provide supporting calculations assuming that the POI router costs are recovered on an All Carrier basis including the cable company's own Internet customers over a 10 year study period.
 - D) Provide a revised POI Access tariff rate (monthly) assuming that the POI router costs are recovered in the Transport rate. Provide supporting capital cost and expense items and rate model results.
 - E) Provide Cogeco's estimate of a one-time charge for POI Access excluding router costs.
- 115 Provide Cogeco's view of the appropriateness of introducing a rate structure for service charges, POI Access tariff rates and POI router card rates as proposed in each of Rogers in TN 11, Shaw in TN 4, and Videotron in TN 8, to apply to Cogeco. If not, why not?
- 116 For each of the rates described in revenue and cost Tables 1 to 7 of TN 7, provide costs broken down by activity (such as order processing, service connection, visit costs, other). For each cost item in an activity, provide the cost estimate, the frequency of occurrence, labour time included and the labour rate used. Provide the detailed basis on which estimates of cost, frequency of occurrence, equipment costs, contractor costs and labour time are determined.
- 117 For the activation of an existing drop/inside wire, provide a cost breakdown in the format of Rogers TN 11, Standard Installation, pages 2 to 4 of 12, 13 July 2001 update of Rogers(CRTC)28Jan00-12. For each

cost item provide the cost estimate, the frequency of occurrence, any labour time included and the labour rate used. Provide the basis on which estimates of cost, frequency of occurrence, equipment costs, contractor costs, and labour time are determined.

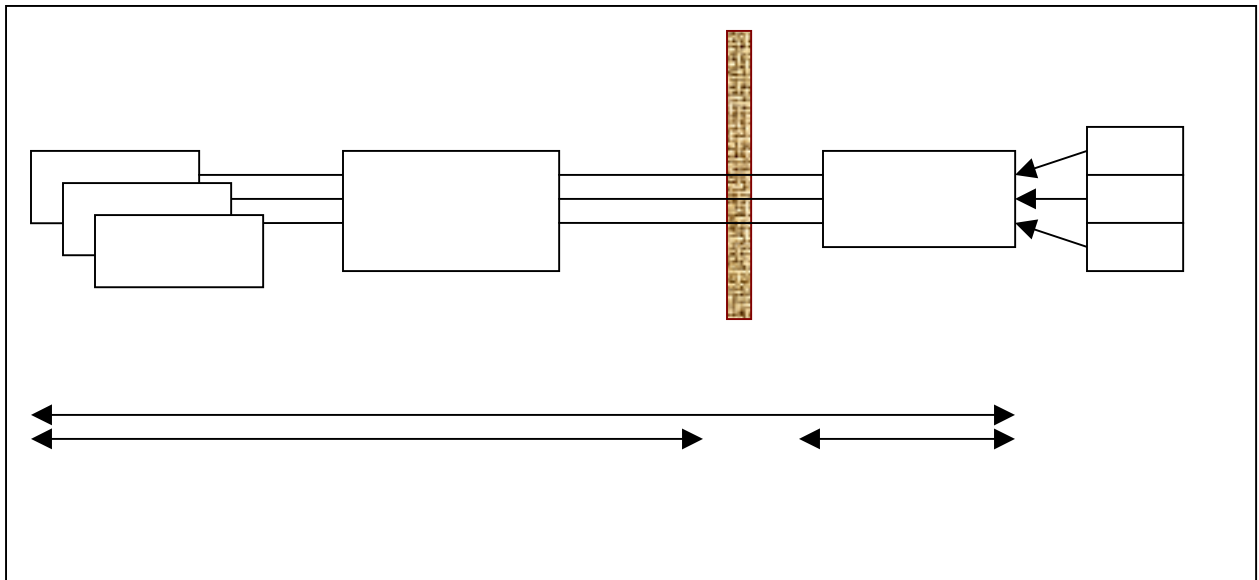
- 118 *Provide your estimate of the appropriate level of a general tariff rate for POI entrance facilities averaged over a forecast of all ISP initial or subsequent POI connections and other company services that may use the entrance facilities. Provide supporting cost elements, quantities and demand forecast over a 10 year period. Such a tariff should include recovery of the Fibre Optic Splicing Closure, facilities to connect to a Fibre Entry Panel, the Fibre Entry Panel and related cable, splicing and labour costs.*

7. The main points of this series of interrogatories was to challenge Bell Canada before the CRTC to justify its proposed terms and conditions for ADSL third party access in presence of a similar process for providing third party access to cable modem services of dominant cable carriers in Canada.

8. It appears clear from the responses of Bell Canada as part of the TN6622 approval process set by the CRTC that the focus of the third party access service is to discourage interconnection at the POI (point of interconnection) by keeping this service slow, expensive, and require entry into the fortresses of the incumbent carriers.

9. The comments demonstrated that interconnection would be best achieved by requiring from the incumbent telephone carrier to provide interconnection using a Gigabit Ethernet switch, mapping end-user ATM virtual circuits onto Ethernet VLANs and providing interconnection outside of the central office by fusing optical fiber from different service providers onto its optical plant entering the central office and thus interconnecting service-provider GigE over fiber interfaces to the interfaces of the switch facing the DSLAMs in the central office.

10. The following diagram presents the architecture of this point of interconnection:



11. It is critical that the splice closure outside the central office be located on competitively neutral support structures such as a joint use pole of a power utility with sufficient room to accommodate several cables from multiple competitors.

Conclusion

12. The CRTC is currently determining which changes it will require from the Bell Canada TN6622 application as part of a comprehensive process to review generic rules for the implementation of Points of Interconnection. Incumbent cable carriers in the United States have the same requirement to file proper economic evaluations for third party access services and regulators can leverage economic evaluation by Bell Canada (by proxy) in absence of such filings in the USA.

13. By combining UNE rates for unbundled loops and third party access rates for DSL and by removing the requirement that primary exchange service be maintained from the ILEC when purchasing DSL service, ISPs and CLECs have the opportunity to provide a service worth at least \$60 at retail (\$30 for DSL and \$30 for telephone) using services from the ILEC purchased at around \$30 (\$10 for the UNE and \$20 for the ADSL third

party access), providing \$30 of head-room for providing competitive telephone and internet access services.

14. It is believed that voice over IP over DSL third party access could easily be provided by ISPs would such an arrangement be mandated by regulators. Likewise, such regulators still concerned with implementing competition as required by the 1996 Act will find in this approach one that is clearly capable of success.

Best regards,

A handwritten signature in dark ink, appearing to read "Alvin", followed by a large, stylized flourish that extends to the right.

ed,

P.O. Box 203
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Canada
July 1st, 2002

Appendix A

ECONOMIC EVALUATION

IN SUPPORT OF THE

TARIFF FILING FOR

ASYMMETRIC DIGITAL SUBSCRIBER LINE (ADSL)

ACCESS SERVICE

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PURPOSE

1. The Company is proposing a reduction in the rates for each of the rate elements associated with GT Item 5400 in order to move the service prices closer to the costs incurred to provision the service. The revised rates reflect mark-ups equivalent to those previously approved by the Commission pursuant to the approval of the existing rates, i.e. Orders 97-1449 and 99-68 respectively.

Rates

Residential Rates

2. ADSL High-Speed Service Provider Interface (per interface)

<u>Tariff Component</u>	<u>Service Charge</u>	<u>Monthly Charge</u>
Minimum Contract Period		
1 year	\$500.00	\$1,300.00
2 years	500.00	1,200.00
3 years	500.00	900.00
ADSL Loop Administration & Support (per loop associated with an ADSL access)	48.00	2.90
ADSL Access (per access)	43.00	19.00

Business and Centrex Rates

3. ADSL High-Speed Service Provider Interface (per interface)

<u>Tariff Component</u>	<u>Service Charge</u>	<u>Monthly Charge</u>
Minimum Contract Period		
1 year	\$1,000.00	\$2,000.00
2 years	1,000.00	1,900.00
3 years	1,000.00	1,400.00
ADSL Loop Administration & Support (per loop associated with an ADSL access)	48.00	2.90
ADSL Access (per access)	86.00	28.50

Imputation Test

Imputation Test Results

4. The following tables provide imputation test results for ADSL Access service.
5. Included in the cost of ADSL Access are the imputed tariffed rates for the “connecting links” necessary to interconnect the ADSL equipment to the MDF in a given Company Central Office. Accordingly, the imputed tariff for this underlying essential service has been separately identified. As outlined in the following tables, the unitized revenue for each ADSL component exceeds the unitized cost.

Residential ADSL Access Service

Description	<u>Estimated Revenue Per ADSL End-User (\$)</u>	<u>Estimated Cost Per ADSL End-User (\$)</u>	<u>Imputed Tariffs Per ADSL End-User (\$)</u>	<u>Sum of Cost and Imputed Tariff (\$)</u>	<u>Difference (\$)</u>
i) ADSL Loop Administration & Support	4.42	#	N/A	#	#
ii) ADSL Access	20.36	#	0.21 ¹	#	#

Description	<u>Estimated Revenue per DS-3 (\$)</u>	<u>Estimated Cost Per DS-3 (\$)</u>	<u>Imputed Tariffs per DS-3 (\$)</u>	<u>Sum of Cost and Imputed Tariff (\$)</u>	<u>Difference (\$)</u>
iii) High-Speed Service Provider Interface	910.33	#	N/A	#	#

N/A = Not Applicable.

¹ Imputed as per Bell Canada Access Service Tariff, Item 105 - Connecting Link Type A and B.

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Business ADSL Access Service

Description	<u>Estimated Revenue Per ADSL End-User (\$)</u>	<u>Estimated Cost Per ADSL End-User (\$)</u>	<u>Imputed Tariffs Per ADSL End-User (\$)</u>	<u>Sum of Cost and Imputed Tariff (\$)</u>	<u>Difference (\$)</u>
ii) ADSL Loop Administration & Support	4.42	#	N/A	#	#
ii) ADSL Access	31.22	#	0.21 ¹	#	#

Description	<u>Estimated Revenue per DS-3 (\$)</u>	<u>Estimated Cost Per DS-3 (\$)</u>	<u>Imputed Tariffs per DS-3 (\$)</u>	<u>Sum of Cost and Imputed Tariff (\$)</u>	<u>Difference (\$)</u>
iii) High-Speed Service Provider Interface	1420.66	#	N/A	#	#

N/A = Not Applicable.

¹ Imputed as per Bell Canada Access Service Tariff, Item 105 - Connecting Link Type A and B.

General Considerations**Study Assumptions**

6. Variable Common Costs are included in the study. Cost and expense increase and productivity factors have been applied.

Study Period

7. The study period is from 01 January 2002 to 31 December 2011 inclusive.

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Economic Parameters and Tax Rates

8. The economic parameters and tax rates used in the study are as follows:

Cost of Capital	#
Cost of Debt	#
Debt Ratio	#
Variable Common Cost Factor	#
ROE - Common	11.0%
Income Tax Rate	39.26%
Capital Miscellaneous Tax Rate	0.419%
Gross Receipts Tax Rate (Ontario)	Note
Tax Rate on Telecommunications, Gas & Electricity (Quebec)	8.00%
Large Corporate Tax Rate	0.225%

Note: 1% in 2002 and 0% in 2003 to 2006.

Demand and Revenue Information

Description of Forecast Assumptions and Methodology

9. Presently, the Company only has one wholesale customer. Therefore, it was not appropriate to develop a demand forecast. The costs for each rate element were developed for a unit of demand.

Phase II Costs

10. The service charges associated with each of the rate elements reflect the cost of ordering and processing an order for the specific rate element. In the case of the Loop Administration and Support service charge, the cost of framework performed at the Main Distribution Frame (MDF) is also included.

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11. For the monthly rate element for ADSL High-Speed Service Provider Interface, capital causal to demand includes a DS-3 port on the network side of the ATM switch or concentrator. The cost of a DS-3 cross-connect, excluding the port to terminate the ISP's DS-3 is reflected in the capital costs. For central offices with no ATM switch or concentrator, a portion of the costs associated with backhaul are also reflected in the capital costs.

12. Expenses causal to service for ADSL High-Speed Service Provider Interface include the maintenance associated with the above capital and ongoing costs associated with service provisioning and billing. A location life of 5 years was assumed for the ADSL High-Speed Service Provider Interface.

13. For the monthly rate element for ADSL Loop Administration and Support, the capital causal to demand includes the cost of the connecting blocks on the MDF and the POTS splitter.

14. Expenses causal to service for ADSL Loop Administration and Support reflect the maintenance associated with the above capital. The process to determine whether an access loop qualifies for ADSL service is now automated and there are no incremental costs associated with this tool.

15. For the monthly rate element for ADSL Access, capital causal to demand includes the Alcatel DSLAM technology, the access side of the ATM switch or concentrator and the associated facilities between these pieces of equipment, as well as between the MDF and the DSLAM.

16. Expenses causal to service for ADSL Access include the maintenance associated with the above capital and ongoing costs associated with service provisioning and sales management. A location life of 3 years was assumed for ADSL end-users.

Table 3.4.1
Summary of Revenue and Cost Impacts
for ADSL High-Speed Service Provider Interface Monthly Rate Element

	<u>\$ Per</u> <u>DS-3</u> (Current \$)
<u>Total Cost Impacts(PWACs):</u>	#
<u>Expenses causal to the service</u>	0
Advertising and Promotion	0
Billing - Related.	0
Other	0
<u>Capital causal to the service</u>	0
Hardware	0
Software	0
<u>Capital causal to demand</u>	#
Outside Plant Equipment	#
Switching Equipment	#
Transmission Equipment	#
Land, Building and Other	#
Other	#
<u>Expenses causal to demand</u>	#
Maintenance	#
Service Provisioning	#
Advertising	#
Sales Management (excluding Advertising)	#
other	#
<u>Present Worth of End of Study Value</u> (included in the PWAC)	#

Note: Totals may not balance due to rounding.

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Table 3.4.2
Summary of Revenue and Cost Impacts
for ADSL Loop Administration & Support Monthly Rate Element

	<u>\$ Per</u> <u>ADSL End-User</u> (Current \$)
<u>Total Cost Impacts(PWACs):</u>	#
<u>Expenses causal to the service</u>	0.00
Advertising and Promotion	0.00
Billing - Related.	0.00
Other	0.00
<u>Capital causal to the service</u>	0.00
Hardware	0.00
Software	0.00
<u>Capital causal to demand</u>	#
Outside Plant Equipment	#
Switching Equipment	#
Transmission Equipment	#
Land, Building and Other	#
Other	#
<u>Expenses causal to demand</u>	#
Maintenance	#
Service Provisioning	#
Advertising	#
Sales Management (excluding Advertising)	#
other	#
<u>Present Worth of End of Study Value</u>	#
(included in the PWAC)	

Note: Totals may not balance due to rounding.

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Table 3.4.3
Summary of Revenue and Cost Impacts
for ADSL Access Monthly Rate Element

	<u>\$ Per</u> <u>ADSL End-User</u> (Current \$)
<u>Total Cost Impacts(PWACs):</u>	#
<u>Expenses causal to the service</u>	0.00
Advertising and Promotion	0.00
Billing - Related.	0.00
Other	0.00
<u>Capital causal to the service</u>	0.00
Hardware	0.00
Software	0.00
<u>Capital causal to demand</u>	#
Outside Plant Equipment	#
Switching Equipment	#
Transmission Equipment	#
Land, Building and Other	#
Other	#
<u>Expenses causal to demand</u>	#
Maintenance	#
Service Provisioning	#
Advertising	#
Sales Management (excluding Advertising)	#
other	#
<u>Present Worth of End of Study Value</u>	#
(included in the PWAC)	

Note: Totals may not balance due to rounding.

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DIGITAL ACCESS SERVICE

SERVICE D'ACCÈS NUMÉRIQUE

Item

5400. ASYMMETRIC DIGITAL SUBSCRIBER LINE (ADSL) ACCESS SERVICE

Article

5400. SERVICE D'ACCÈS PAR LIGNE NUMÉRIQUE À PAIRES ASYMÉTRIQUES (LNPA)

3. Rates and Charges - continued

(2) The following rates and charges apply to the various components:

3. Tarifs et frais - suite

(2) Les tarifs et frais suivants s'appliquent aux divers composants :

ADSL associated with Residential Lines		LNPA associé aux lignes de résidence		Monthly Rate Tarif mensuel	Service Charge Frais de service
ADSL High-Speed Service Provider Interface.		Interface de fournisseur de services LNPA à grande vitesse.			
Minimum Contract Period	1 year	Durée minimale du contrat	1 an	\$1,300.00	\$500.00
	2 years		2 ans	1,200.00	500.00
	3 years		3 ans	900.00	500.00
ADSL Loop Administration & Support, each ADSL Access.....		Gestion et soutien de la ligne LNPA, chaque accès LNPA		2.90	48.00
ADSL Access, each.....		Accès LNPA, chacun		19.00	43.00

ADSL associated with Business and Centrex Lines		LNPA associé aux lignes d'affaires et aux lignes Centrex		Monthly Rate Tarif mensuel	Service Charge Frais de service
ADSL High-Speed Service Provider Interface. (Note)		Interface de fournisseur de services LNPA à grande vitesse. (Note)			
Minimum Contract Period	1 year	Durée minimale du contrat	1 an	\$2,000.00	\$1,000.00
	2 years		2 ans	1,900.00	1,000.00
	3 years		3 ans	1,400.00	1,000.00
ADSL Loop Administration & Support, each ADSL Access.....		Gestion et soutien de la ligne LNPA, chaque accès LNPA		2.90	48.00
ADSL Access, eac		Accès LNPA, chacun		28.50	86.00

Note: The ADSL High-Speed Service Provider Interface associated with Business and Centrex lines may also be used to terminate individual ADSL accesses associated with Residential lines.

Note : L'interface de fournisseur de services LNPA à grande vitesse destinée aux lignes d'affaires et aux lignes Centrex peut également être utilisée pour raccorder les accès LNPA individuels des lignes de résidence.

Continued on page 737 / Suite page 737.

See page 4 for explanation of symbols / Voir liste des symboles page 4.